

**Meeting of the Central Valley Flood Protection Board  
July 25, 2014**

**Staff Report**

**Placer County Department of Public Works  
Dowd Road Bridge Replacement, Placer County**

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**1.0 – REQUESTED ITEM**

Consider approval to replace the existing Dowd Road bridge over Yankee Slough (Attachment A) by Draft Permit No. 18943 (Attachment B).

**2.0 – APPLICANT**

Placer County Department of Public Works

**3.0 – PROJECT LOCATION**

The project is located at the Dowd Road crossing of Yankee Slough in west Placer County, northwest of the City of Lincoln, between Dalby Road and Sheridan to the north and Waltz Road to the south (Attachment A).

**4.0 – PROJECT DESCRIPTION**

Placer County proposes to replace the existing narrow and substandard two-lane reinforced concrete slab bridge over Yankee Slough with a single span precast prestressed voided concrete slab bridge 63 feet long by 36 feet wide on the same horizontal alignment as the existing bridge. The proposed bridge will be supported on concrete abutments supported by 30 inches diameter cast-in-drilled hole (CIDH) concrete piles.

**5.0 – AUTHORITY OF THE BOARD**

California Water Code § 8534, 8590 – 8610.5, and 8700 – 8710

California Code of Regulations Title 23 (Title 23)

- § 6, Need for a Permit
- § 108, Existing Encroachments

- § 112, Streams Regulated and Nonpermissible Work Periods
- § 116, Borrow and Excavation Activities – Land and Channel
- § 121, Erosion Control
- § 128, Bridges

## **6.0 – AGENCY COMMENTS AND ENDORSEMENTS**

The comments and endorsements associated with the project are as follows:

- The U.S. Army Corps of Engineers (USACE) Sacramento District comment letter was received on April 30, 2014 for this application. The letter indicates that the USACE District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed project. The letter is incorporated it into the permit as Exhibit A.
- Placer County endorsed the project without any conditions on February 5, 2014 (Attachment C).

## **7.0 – PROJECT ANALYSIS**

### **7.1 – Project Background**

- June 7, 2010 – Initial application package received (freeboard deficient).
- March 22, 2011 – Application placed in inactive status awaiting additional technical information from the applicant.
- February 6, 2014 – Placer County submitted a re-designed application, which was subsequently deemed compliant with Title 23 (Attachment D).

### **7.2 – Hydraulic Summary**

The Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) has no design discharge data for the Dowd Road Bridge over Yankee Slough. The applicant coordinated with the Placer County Flood Control and Water Conservation District (PCFC&WCD) and estimated design discharges for Yankee Slough using the HEC-1 computer program. The estimated 100-year design discharge is 1,900 cubic feet per second (cfs).

Based on HEC-RAS hydraulic modeling the proposed bridge replaces a structure that is submerged 2.33 feet in depth during a 100-year flood event with a bridge that has 3.2 feet of freeboard at the 100-year discharge and is compliant with Title

23 standards. The project also decreases the water surface elevation (WSE) by 0.77 feet (from 90.41 to 89.64 feet) which provides a hydraulic improvement to the WSE (Attachment E).

Channel velocities at the bridge site are modeled to increase from 2.56 feet per second (fps) to 6.74 fps, and as a result the applicant has proposed to place 3.3 feet of Title 23-compliant Rock Slope Protection (RSP) at the bridge abutments to eliminate any increased scour that may occur with the new bridge in place. This velocity increase is still within acceptable channel velocity limits.

Based on the hydraulic analysis provided staff has determined that the proposed project is expected to result in no adverse hydraulic impacts to the Yankee Slough channel or floodway.

### **7.3 – Geotechnical Summary**

Board staff has reviewed geotechnical information provided by Placer County and has determined that the proposed project is expected to result in no adverse geotechnical impacts to the Yankee Slough channel or floodway.

All fill, excavation, RSP, and temporary structures will be completed in compliance with Draft Permit No. 18943 and all Title 23 technical standards.

### **8.0 – CEQA ANALYSIS**

Board staff has prepared the following California Environmental Quality Act (CEQA) determination:

The Board, as a responsible agency under CEQA, has reviewed the Initial Study/Mitigated Negative Declaration (IS/MND) (SCH Number: 2009032002, March 2009), Subsequent Initial Study/Mitigated Negative Declaration (IS/MND) (SCH Number: 2009032002, March 2013) and Mitigation Measures for the Dowd Road over Yankee Slough Bridge Replacement Project prepared by the lead agency, Placer County. These documents, including project design, may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvfpb.ca.gov/meetings/2014/07-25-2014.cfm> under a link for this agenda item. These documents are also available for review in hard copy at the Board and the Placer County offices.

Placer County determined that the project would not have a significant effect on the environment on May 7, 2013 and adopted Resolution 2013-083 and subsequently

filed a Notice of Determination on May 8, 2013 with the State Clearinghouse. Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the project proponent's IS/MND and address impacts to air quality, biological resources, geology and soils, hydrology and water quality. The description of the mitigation measures are further described in the adopted IS/MND.

The documents and other materials which constitute the record of the Central Valley Flood Board's proceedings in this matter are in the custody of Leslie Gallagher, Acting Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Rm. 151, Sacramento, California 95821.

### **9.0 – CALIFORNIA WATER CODE § 8610.5 CONSIDERATIONS**

- Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board has considered all the evidence presented in this matter, including the applications for Permit No. 18943, all supporting hydraulic, geotechnical, and other technical documentation provided by Placer County.

- The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

In making its findings, the Board has used the best available science relating to the issues presented by all parties. On the important issue of hydraulic impacts Placer County used the HEC-1 rainfall-runoff HEC-RAS one-dimensional flow models. These models are considered by many experts as the best available and applicable scientific tools for the purpose of modeling rainfall-runoff and river hydraulics for this region.

- Effects of the decision on the facilities of the State Plan of Flood Control, and consistency of the proposed project with the Central Valley Flood Protection Plan as adopted by Board Resolution 2012-25 on June 29, 2012:

This project is expected to result in no adverse impacts on facilities of the State Plan of Flood Control, and is consistent with the adopted 2012 Central

Valley Flood Protection Plan and current Title 23 standards because the proposed project is predicted to result in no increase in water surface elevation or substantial increase in channel velocities, and it replaces a hydraulically deficient bridge with a modern Title 23-compliant structure.

- Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

Placer County has determined that they do not anticipate any future projects that would impact the bridge replacement based on research of plans and other projects in the area.

### **10.0 – STAFF RECOMMENDATION**

Board staff recommends that the Board:

- adopt the CEQA findings;
- approve Draft Encroachment Permit No. 18943 (in substantially the form provided); and,
- direct the Executive Officer to take the necessary actions to execute the permit and file a Notice of Determination pursuant to CEQA with the State Clearinghouse.

### **11.0 – LIST OF ATTACHMENTS**

A – Project Vicinity and Location Maps

B – Draft Permit No. 18943

Exhibit A – USACE Comment Letter (dated April 30, 2014)

C – Placer County Endorsement (dated February 5, 2014)

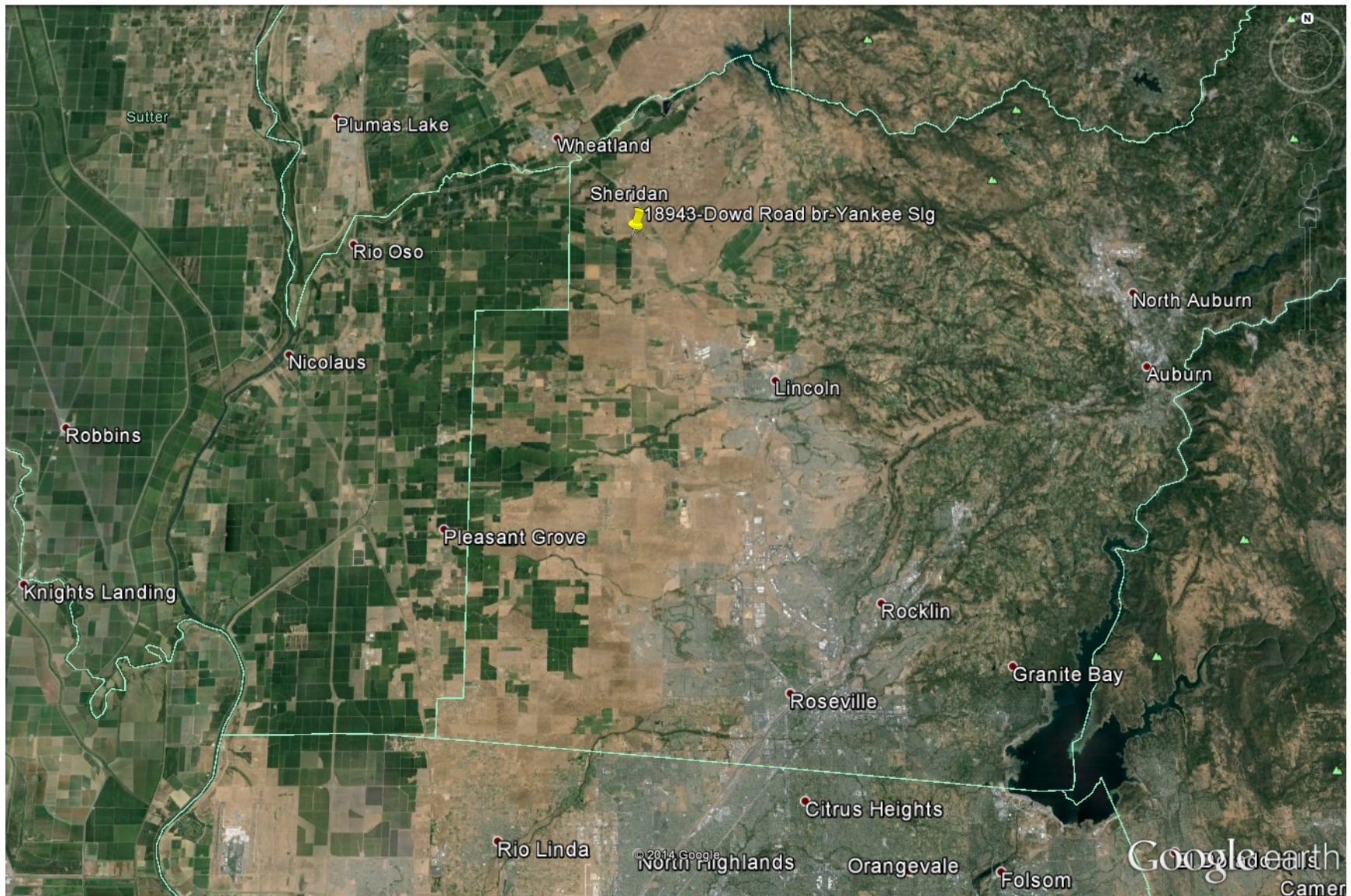
D – General Plan

E – Hydraulic Profile Information

Prepared by:	Sungho Lee, Engineer, Water Resources, Projects Section
Document Review:	Nancy C. Moricz, Senior Engineer, Projects and Environmental Branch Andrea Buckley, Senior Environmental Scientist Eric Butler, Projects and Environmental Branch Chief Len Marino, Chief Engineer
Legal Review	Leslie Gallagher, Chief Counsel

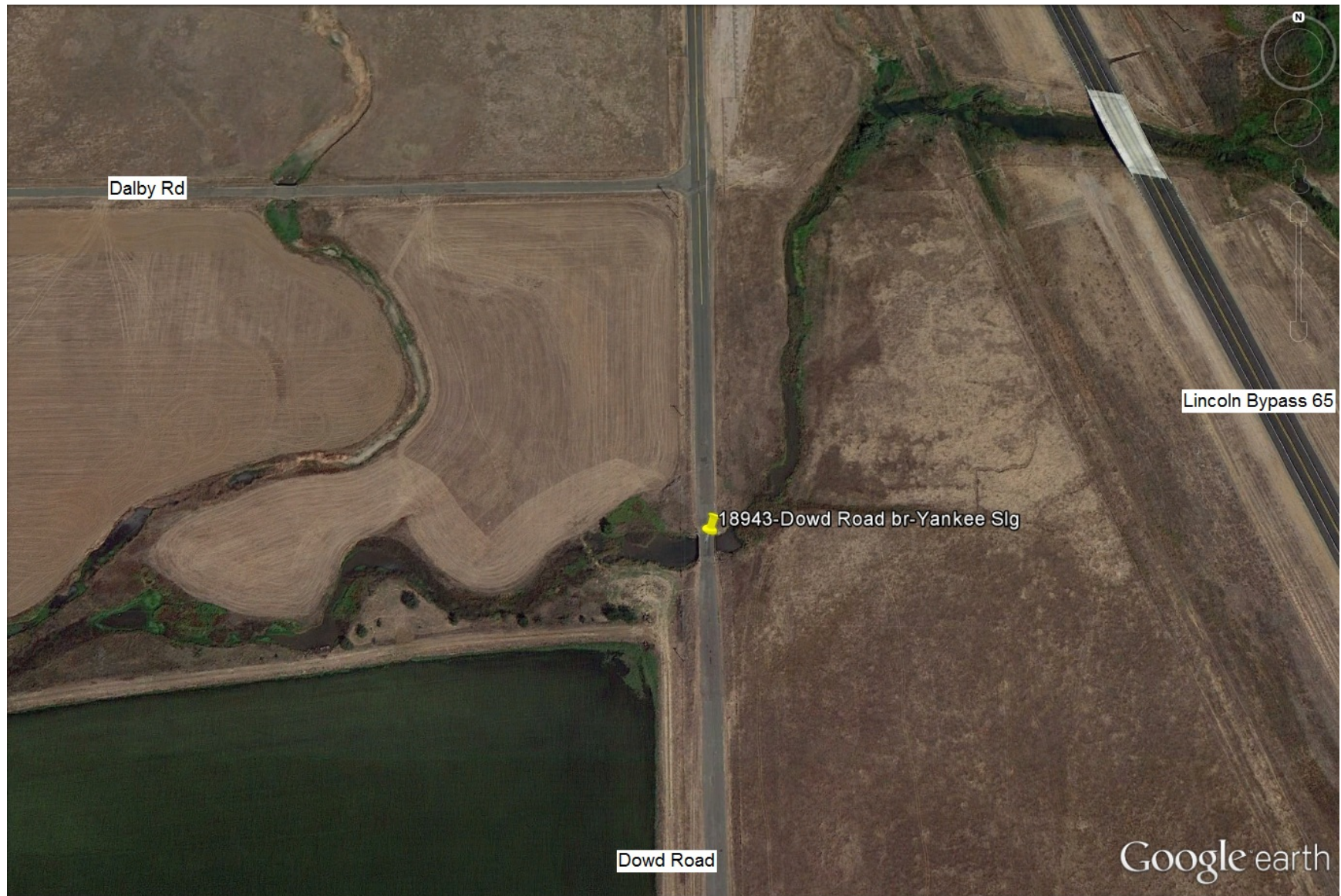


ATTACHMENT A – VICINITY AND LOCATION MAPS





ATTACHMENT A – VICINITY AND LOCATION MAPS



**DRAFT**

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
**THE CENTRAL VALLEY FLOOD PROTECTION BOARD**

**PERMIT NO. 18943 BD****This Permit is issued to:**

Placer County Department of Public Works  
3091 County Center Drive  
Suite 220  
Auburn, California 95603

Replacement of the existing narrow two-lane substandard reinforced concrete slab bridge with a single span precast prestressed voided concrete slab bridge 63' long by 36' wide. The proposed bridge will be supported on concrete abutments supported by 30 inches diameter cast-in-drilled hole (CIDH) concrete piles. The project is located at the Dowd Road crossing of Yankee Slough in west Placer County, northwest of the City of Lincoln in an unincorporated area, between Dalby Road and Sheridan to the north and Waltz Road to the south (Section 23, T13N, R5E, MDB&M, Placer County Flood Control and Water Conservation District, Yankee Slough, Placer County).

**NOTE:** Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

**(SEAL)**

Dated: \_\_\_\_\_

\_\_\_\_\_  
Executive Officer**GENERAL CONDITIONS:**

**ONE:** This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

**TWO:** Only work described in the subject application is authorized hereby.

**THREE:** This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

**FOUR:** The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the



permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

**FIVE:** Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

**SIX:** This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

**SEVEN:** It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

**EIGHT:** This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

**NINE:** The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

**TEN:** The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

**ELEVEN:** The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

**TWELVE:** Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

#### **SPECIAL CONDITIONS FOR PERMIT NO. 18943 BD**

**THIRTEEN:** All work completed under this permit, as directed by the general and special conditions herein, shall be accomplished to ensure that the work is not injurious to adopted plans of flood control, regulated streams, and designated floodways under Board jurisdiction, as defined in California Code of Regulations, Title 23. This permit only applies to the completion of work in the project description located within, or adjacent to and having bearing on Board jurisdiction, and which directly or indirectly affects the Board's jurisdiction. This special condition shall apply to all subsequent conditions herein.

#### **LIABILITY AND INDEMNIFICATION**

**FOURTEEN:** The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the Central Valley Flood Protection Board, the Department of Water Resources, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, arising out of failure on the permittee's part to perform the obligations under this permit, the permittee shall defend and shall hold each of them harmless from each claim. This condition shall supersede condition TEN.

**FIFTEEN:** The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, and their respective officers, agents, employees, successors and assigns, safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The Central Valley Flood Control Board and the

Department of Water Resources expressly reserve the right to supplement or take over their defense, in their sole discretion.

SIXTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, and their respective officers, agents, employees, successors and assigns, safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The Central Valley Flood Control Board and the Department of Water Resources expressly reserve the right to supplement or take over their defense, in their sole discretion.

SEVENTEEN: The Central Valley Flood Protection Board, Department of Water Resources, and Placer County shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

#### BOARD CONTACTS

EIGHTEEN: The permittee shall contact the Board by telephone at (916) 574-0609, and the Board's Construction Supervisor at (916) 651-1299 to schedule a preconstruction conference. Failure to do so at least 20 working days prior to start of work may result in delay of the project.

#### PERMITTING AND AGENCY CONDITIONS

NINETEEN: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers District Engineer dated April 30, 2014, which is attached to this permit as Exhibit A and is incorporated by reference.

TWENTY: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

TWENTY-ONE: The permittee agrees to incur all costs for compliance with local, State, and federal permitting and resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations they administer and enforce.

TWENTY-TWO: If the permittee does not comply with the conditions of this permit and enforcement by the Board is required, the permittee shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees.

#### PRE-CONSTRUCTION

TWENTY-THREE: The permittee shall provide construction supervision and inspection services acceptable to the Board.

TWENTY-FOUR: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions of project conditions. The photo record shall be submitted to the

Central Valley Flood Protection Board within thirty (30) calendar days of beginning the project.

TWENTY-FIVE: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Central Valley Flood Protection Board.

TWENTY-SIX: Thirty (30) calendar days prior to the start of any demolition and / or construction activities within the floodway or within the existing levee prism, the permittee shall submit to the Board's Chief Engineer two sets of detailed plans and specifications and supporting geotechnical and / or hydraulic impact analyses, for any and all temporary, in channel, or levee prism work that may have an impact during the flood season from November 1 through April 15. The Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or the local maintaining agency when necessary. The Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) working days.

## CONSTRUCTION

TWENTY-SEVEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No work, other than that approved by this permit, shall be done in the project area without prior approval of the Central Valley Flood Protection Board.

TWENTY-EIGHT: All addenda and contract change orders made to the approved plans and / or specifications by the permittee after Board approval of this permit shall be submitted to the Board's Chief Engineer for review and approval prior to incorporation into the permitted project. The submittal shall include all supplemental plans, specifications, and necessary supporting geotechnical, hydrology and hydraulics, or other technical analyses. The Board shall acknowledge receipt of the addendum or change submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agencies when necessary. The Board will provide written notification to the permittee if the review period is likely to exceed forty five (45) calendar days. Upon approval of submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes.

TWENTY-NINE: All debris generated by this project shall be disposed outside of Yankee Slough.

THIRTY: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15.

THIRTY-ONE: The abandoned or dismantled bridge shall be completely removed and disposed of outside the limits of the levee section and floodway.

THIRTY-TWO: The method and schedule of removing the bridge shall be approved by the Central Valley Flood Protection Board prior to start of work.

THIRTY-THREE: Piers, bents, and abutments being dismantled shall be removed to at least one (1) foot below the natural ground line and at least three (3) feet below the bottom of the low-water channel.

THIRTY-FOUR: Revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent revetment and in a manner which avoids segregation.

THIRTY-FIVE: The recommended minimum thickness of revetment, measured perpendicular to the bank or levee slope is 18 inches below the usual water surface and 12 inches above the usual water surface.

THIRTY-SIX: The revetment shall not contain any reinforcing steel, floatable, or objectionable material. Asphalt or other petroleum-based products may not be used as fill or erosion protection on the levee section or within the floodway.

THIRTY-SEVEN: Backfill material for excavations within the bank section and within 10 feet of bridge supports within the floodway shall be placed in 4- to 6-inch layers and compacted to a minimum of 90 percent relative compaction per ASTM Method D1557-91 and above optimum moisture content.

THIRTY-EIGHT: The fill surface areas shall be graded to direct drainage away from the toe of the bank.

THIRTY-NINE: Density tests by a certified materials laboratory will be required to verify compaction of backfill within Yankee Slough.

FORTY: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

FORTY-ONE: The permittee shall be responsible for all damages due to settlement, consolidation, or heave from any construction-induced activities.

#### VEGETATION / ENVIRONMENTAL MITIGATION

FORTY-TWO: Fill placed at slopes greater than two (2) horizontal to one (1) vertical without bank slope revetment shall be seeded with a native grass mix to reduce the risk of erosion.

FORTY-THREE: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

FORTY-FOUR: In the event that levee or bank erosion injurious to facilities of the State Plan of Flood Control occurs at or adjacent to and as a result of the project, the permittee shall repair the eroded area and propose measures, to be approved by the Board, to prevent further erosion.

#### POST-CONSTRUCTION

FORTY-FIVE: The permittee shall be responsible for repair of any damages to Yankee Slough due to construction, operation, or maintenance of the proposed project.

FORTY-SIX: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board as-built drawings and a certification report, stamped and signed by a



professional engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications.

#### OPERATIONS AND MAINTENANCE

FORTY-SEVEN: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Central Valley Flood Protection Board, Department of Water Resources, or any other agency responsible for maintenance.

FORTY-EIGHT: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

FORTY-NINE: Drainage from the bridge or highway shall not be discharged directly into Yankee Slough without proper erosion control measures in-place.

FIFTY: If the permitted structure results in any adverse hydraulic impact or scouring the permittee shall provide appropriate mitigation measures subject to review and approval of the Central Valley Flood Protection Board.

FIFTY-ONE: All debris that may accumulate around the bridge piers and abutments within Yankee Slough shall be completely removed from the floodway following each flood season.

FIFTY-TWO: The permitted encroachment(s) shall not interfere with the flood conveyance capability of Yankee Slough. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

#### PROJECT ABANDONMENT, CHANGE IN PLAN OF FLOOD CONTROL

FIFTY-THREE: If the project, or any portion thereof, is to be abandoned in the future, the permittee shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's cost and expense.

FIFTY-FOUR: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project works if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with implementation of the Central Valley Flood Protection Plan or other future flood control plan or project, or if damaged by any cause. If the permittee does not comply, the Board may perform this work at the permittee's expense.

#### END OF CONDITIONS



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U.S. Army Engineer District, Sacramento  
Corps of Engineers  
1325 J Street  
Sacramento, California 95814-2922

Flood Protection and Navigation Section (18943)

APR 30 2014

Mr. Jay Punia, Executive Officer  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Room 151  
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed a permit application by the Placer County Department of Public Works (application number 18943). This project includes replacing the existing narrow two-lane substandard reinforced concrete slab bridge over Yankee Slough with a single span precast prestressed voided concrete slab bridge 63' long by 36' wide supported on concrete abutments supported by cast-in-drilled hole (CIDH) concrete piles. The project is located on North Dowd Road, south of Dalby Road and south of Sheridan, at 38.9615°N 121.3771°W NAD83, Placer County, California.

The District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed project.

A file (2006-1002) has been opened because a Section 10 and/or Section 404 permit may be required. Please advise the applicant to contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Division, 1325 J Street, Room 1350, Sacramento, California 95814, telephone (916) 557-5250.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite 200, Sacramento, CA 95821.

Sincerely,

A handwritten signature in black ink, appearing to read "Ryan Larsen", is written over a horizontal line.

Ryan Larsen, P.E.  
Chief, Flood Protection and Navigation Section

State of California

DEPARTMENT OF WATER RESOURCES  
CENTRAL VALLEY FLOOD PROTECTION BOARD

California Natural Resources Agency

**APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD  
ENCROACHMENT PERMIT**Application No. \_\_\_\_\_  
(For Office Use Only)

1. Description of proposed work being specific to include all items that will be covered under the issued permit.

Replacement of existing narrow two-lane substandard reinforced concrete slab bridge with a single span precast prestressed voided concrete slab bridge 63' long by 36' wide. The proposed bridge deck will be supported on concrete abutments supported by cast-in-drilled hole (CIDH) concrete piles. A reinforced concrete wall on the north east side of the bridge will also be supported on CIDH concrete piles

2. Project

Location: Placer County, in Section 23  
(N) (E)  
Township: 13N (S), Range: 5E (W), M. D. B. & M.  
Latitude: 38°57'41 Longitude: -121°22'38"  
Stream: Yankee Slough, Levee: \_\_\_\_\_ Designated Floodway: \_\_\_\_\_  
APN: \_\_\_\_\_

3. Jean Hanson of 3091 County Center Drive, Suite 220  
Name of Applicant / Land Owner Address  
Auburn CA 95603 530-745-7553  
City State Zip Code Telephone Number  
jhanson@placer.ca.gov  
E-mail

4. \_\_\_\_\_ of \_\_\_\_\_  
Name of Applicant's Representative Company  
\_\_\_\_\_  
City State Zip Code Telephone Number  
E-mail

5. Endorsement of the proposed project from the Local Maintaining Agency (LMA):

*I, Director of Public Works*

We, the Trustees of Placer County approve this plan, subject to the following conditions:  
Name of LMA

☐ Conditions listed on back of this form☐ Conditions Attached☒ No Conditions

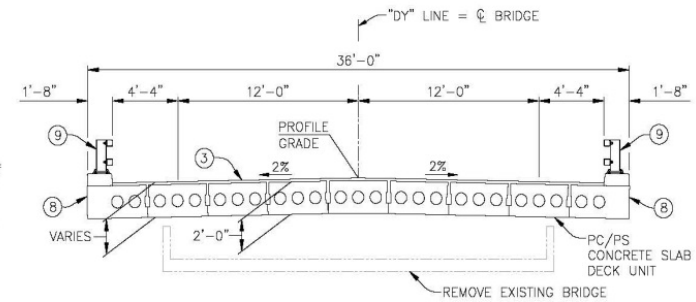
Ken Duhm 2/5/14  
Trustee Date

\_\_\_\_\_  
Trustee Date

\_\_\_\_\_  
Trustee Date





\_\_\_\_\_  
Trustee Date




$$1/4'' = 1' - 0'$$


NOTE:  
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

- ① Paint Bridge Number 19C-0252, year completed and "Yankee Slough Br."
- ② Midwest Guardrail System (see "Roadway Plans")
- ③ 2" Min & varies Polyester Concrete Overlay
- ④ WS Elev for Hydraulic Data, see "Foundation Plan"
- ⑤ Soldier Pile Wall, see "Retaining Wall" sheets
- ⑥ For Rock Slope Protection, Limits of Cut & Fill and Grading Details, see "Roadway Plans"
- ⑦ Structure Approach Type EQ(10) (MOD)
- ⑧ Architectural Treatment, see "AESTHETIC DETAILS" sheet
- ⑨ California ST-30 Bridge Rail

 Indicates proposed structure  
 Indicates existing structure  
 Indicates direction of traffic  
 Indicates direction of flow

65% SUBMITTAL, NOT FOR CONSTRUCTION

DOWD ROAD BRIDGE REPLACEMENT  
OVER YANKEE SLOUGH  
GENERAL PLAN

**PLACER COUNTY CALIFORNIA**  
**DEPARTMENT OF PUBLIC WORKS**

SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS DOCUMENT.

DATE: 12/06/2013  
DESIGN: R. BAUTISTA  
DRAW: K. DRESBACH  
CHK:

DATE: MM/DD/YEAR

CONSTRUCTION  
CONTRACT NO.

PROJECT NO.  
PC2899

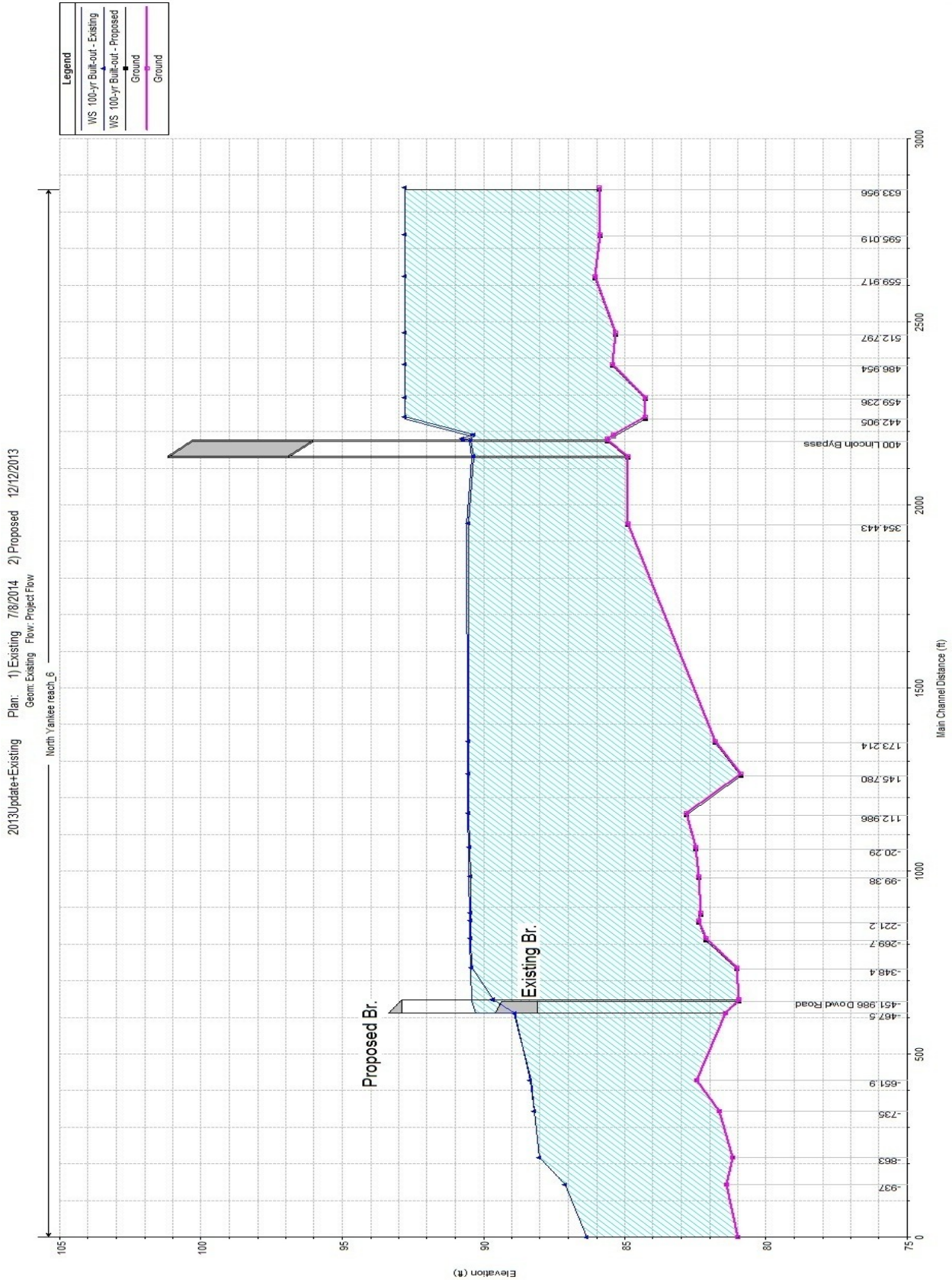
HORIZ: AS SHOWN  
VERT: NA

### SCALE REFERENCE

DRAWING  
S-1

SHEET NO.  
17 of 40





# ATTACHMENT E – HYDRAULIC PROFILE

HEC-RAS River: North Yankee Reach: reach\_6 Profile: 100-yr Built-out

Reach	River Sta	Profile	Plan	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vei Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
reach_6	633.956	100-yr Built-out	Existing	1900.00	85.89	92.79		92.80	0.000028	0.74	3158.87	771.50	0.05
reach_6	633.956	100-yr Built-out	Proposed	1900.00	85.89	92.79	88.73	92.79	0.000029	0.74	3157.65	771.40	0.05
reach_6	595.019	100-yr Built-out	Existing	1900.00	85.86	92.79		92.79	0.000024	0.75	3511.09	851.51	0.05
reach_6	595.019	100-yr Built-out	Proposed	1900.00	85.86	92.79		92.79	0.000024	0.75	3509.74	850.91	0.05
reach_6	559.917	100-yr Built-out	Existing	1900.00	86.06	92.78		92.79	0.000023	0.67	3572.91	867.64	0.05
reach_6	559.917	100-yr Built-out	Proposed	1900.00	86.06	92.78		92.79	0.000023	0.67	3571.53	867.63	0.05
reach_6	512.797	100-yr Built-out	Existing	1900.00	85.34	92.78		92.79	0.000014	0.54	4224.15	988.43	0.04
reach_6	512.797	100-yr Built-out	Proposed	1900.00	85.34	92.78		92.78	0.000014	0.54	4222.58	988.03	0.04
reach_6	486.954	100-yr Built-out	Existing	1900.00	85.43	92.78		92.78	0.000014	0.53	4545.67	1114.49	0.04
reach_6	486.954	100-yr Built-out	Proposed	1900.00	85.43	92.78		92.78	0.000014	0.53	4543.90	1114.44	0.04
reach_6	459.236	100-yr Built-out	Existing	1900.00	84.29	92.78		92.78	0.000013	0.55	4899.43	1230.41	0.04
reach_6	459.236	100-yr Built-out	Proposed	1900.00	84.29	92.78		92.78	0.000013	0.55	4897.48	1230.41	0.04
reach_6	442.905	100-yr Built-out	Existing	1900.00	84.29	92.78		92.78	0.000007	0.41	5860.00	1220.18	0.03
reach_6	442.905	100-yr Built-out	Proposed	1900.00	84.29	92.78		92.78	0.000007	0.41	5858.06	1220.18	0.03
reach_6	427.932*	100-yr Built-out	Existing	1900.00	85.40	90.34	90.34	92.56	0.010896	11.85	159.15	1122.64	1.00
reach_6	427.932*	100-yr Built-out	Proposed	1900.00	85.40	90.36	90.36	92.56	0.010760	11.80	159.75	1122.94	0.99
reach_6	424.884	100-yr Built-out	Existing	1900.00	85.63	90.77	87.31	90.78	0.000023	0.57	3978.72	1130.16	0.05
reach_6	424.884	100-yr Built-out	Proposed	1900.00	85.63	90.74	87.31	90.74	0.000024	0.57	3938.68	1129.61	0.05
reach_6	400			Bridge									
reach_6	354.443	100-yr Built-out	Existing	1900.00	84.91	90.58		90.59	0.000023	0.60	4181.68	1336.12	0.05
reach_6	354.443	100-yr Built-out	Proposed	1900.00	84.91	90.54		90.55	0.000024	0.61	4126.92	1330.69	0.05
reach_6	173.214	100-yr Built-out	Existing	1900.00	81.79	90.57		90.57	0.000017	0.61	4591.88	1287.72	0.04
reach_6	173.214	100-yr Built-out	Proposed	1900.00	81.79	90.53		90.53	0.000017	0.62	4538.56	1283.07	0.04
reach_6	145.780	100-yr Built-out	Existing	1900.00	80.87	90.56		90.57	0.000040	1.02	3006.49	905.86	0.07
reach_6	145.780	100-yr Built-out	Proposed	1900.00	80.87	90.52		90.53	0.000042	1.04	2968.77	903.35	0.07
reach_6	112.986	100-yr Built-out	Existing	1900.00	82.81	90.56		90.57	0.000041	0.81	2532.03	567.21	0.06
reach_6	112.986	100-yr Built-out	Proposed	1900.00	82.81	90.52		90.53	0.000042	0.82	2508.36	564.63	0.06
reach_6	-20.29	100-yr Built-out	Existing	1900.00	82.50	90.53		90.56	0.000250	1.91	1603.04	739.38	0.15
reach_6	-20.29	100-yr Built-out	Proposed	1900.00	82.50	90.49		90.52	0.000263	1.95	1571.32	730.77	0.15
reach_6	-99.38	100-yr Built-out	Existing	1900.00	82.38	90.51		90.54	0.000204	1.81	1704.91	789.33	0.14
reach_6	-99.38	100-yr Built-out	Proposed	1900.00	82.38	90.47		90.50	0.000214	1.85	1670.27	780.65	0.14
reach_6	-199.9	100-yr Built-out	Existing	1900.00	82.31	90.50		90.52	0.000132	1.51	2063.17	882.52	0.11
reach_6	-199.9	100-yr Built-out	Proposed	1900.00	82.31	90.46		90.48	0.000139	1.54	2023.82	873.71	0.11
reach_6	-221.2	100-yr Built-out	Existing	1900.00	82.39	90.50		90.52	0.000110	1.36	2193.84	897.98	0.10
reach_6	-221.2	100-yr Built-out	Proposed	1900.00	82.39	90.46		90.47	0.000115	1.38	2153.74	889.63	0.10
reach_6	-269.7	100-yr Built-out	Existing	1900.00	82.13	90.49		90.51	0.000135	1.53	1899.28	735.48	0.11
reach_6	-269.7	100-yr Built-out	Proposed	1900.00	82.13	90.45		90.47	0.000140	1.55	1866.28	724.56	0.12
reach_6	-348.4	100-yr Built-out	Existing	1900.00	81.03	90.46		90.50	0.000169	2.01	1346.65	348.16	0.13
reach_6	-348.4	100-yr Built-out	Proposed	1900.00	81.03	90.42		90.45	0.000174	2.03	1330.71	346.74	0.13
reach_6	-436.5	100-yr Built-out	Existing	1900.00	80.95	90.41	88.55	90.48	0.000406	2.56	1177.54	586.43	0.19
reach_6	-436.5	100-yr Built-out	Proposed	1900.00	80.95	89.64	87.34	90.35	0.003214	6.74	282.37	475.59	0.53
reach_6	-451.986			Bridge									
reach_6	-467.5	100-yr Built-out	Existing	1900.00	81.43	88.93		89.28	0.003003	5.38	456.10	242.72	0.44
reach_6	-467.5	100-yr Built-out	Proposed	1900.00	81.43	88.90		90.04	0.007775	8.62	224.27	239.30	0.70
reach_6	-651.9	100-yr Built-out	Existing	1900.00	82.45	88.31		88.63	0.003983	5.07	447.28	250.60	0.55
reach_6	-651.9	100-yr Built-out	Proposed	1900.00	82.45	88.34		88.66	0.003778	4.98	455.90	252.23	0.54
reach_6	-735	100-yr Built-out	Existing	1900.00	81.67	88.21		88.37	0.001788	4.35	659.96	361.78	0.39
reach_6	-735	100-yr Built-out	Proposed	1900.00	81.67	88.20	87.45	88.39	0.002042	4.64	614.86	340.40	0.41
reach_6	-863	100-yr Built-out	Existing	1900.00	81.19	88.00		88.15	0.001602	3.77	743.35	506.31	0.38
reach_6	-863	100-yr Built-out	Proposed	1900.00	81.19	88.00		88.15	0.001607	3.77	742.31	505.97	0.36
reach_6	-937	100-yr Built-out	Existing	1900.00	81.40	87.10	87.00	87.86	0.008546	7.10	293.38	238.57	0.80
reach_6	-937	100-yr Built-out	Proposed	1900.00	81.40	87.11	87.02	87.86	0.008339	7.04	297.12	240.43	0.79
reach_6	-1080	100-yr Built-out	Existing	1900.00	81.01	86.35	86.35	86.79	0.005570	7.27	493.46	485.97	0.66
reach_6	-1080	100-yr Built-out	Proposed	1900.00	81.01	86.34	86.34	86.79	0.005792	7.39	485.53	483.42	0.68